**⊘** Air Resources Board

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY DISPLACEMENT (liters)		FUEL TYPE	USEFUL LIFE (hours)		
2017	HJDXL02.9303	2.9	Diesel	8000		
	FEATURES & EMISSION (		TYPICAL EQUIPMENT APPLICATION			
Electro Turboch	Electronic Control M nic Direct Injection, Perio arger, Charge Air Cooler,		Loaders, Tractor, Dozer, Pump, Compressor, Generator Set, Other Industrial Equipment			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
CLASS			НС	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
19 ≤ kW < 56	Tier 4 Final	OPTIONAL STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		CERT			4.2	0.1	0.01			

**BE IT FURTHER RESOLVED:** That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part I-D" adopted October 20, 2005 and last amended October 25, 2012.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this

day of December 2016.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

F0#: U-R-004-0529

12-12-2016 Attachment: Page 10f1

## **Engine Model Summary Form**

Manufacturer: John Deere Power System

Engine category: Nonroad Cl
EPA Engine Family: HJDXL02.9303
Mfr Family Name: 320HCA

Section   Sect	Process Code:	New Submission							
1. Engine Code   2. Engine Model   CARG Cross   (for dissel only)   (SEA Gross)   torque   SAE J1930   TOR COT DISS   TOR CO				4. Fuel Rate:			7. Fuel Rate;		9, Emission Control
1.53   1.50			<ol><li>kW@RPM</li></ol>	mm/stroke@peak kW	(kg/hr)@peak kW	@RPM	mm/stroke@peak	8. Fuel Rate;	Device Per
**************************************		<ol><li>Engine Model</li></ol>							
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**************************************			55@2200			304@1550	109.4@1550		
1.00   1.00								A STATE OF THE PARTY OF THE PAR	
*3029 FG03F									
100   100									
*3029HF060D 3029 480 1500 103.5 2 1500 11.8 2 1500 3 16.000						209@1550	78.6@1550	9.3@1550	
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## 1500			36@1800						
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